

IN THE CLAIMS:

The text of all pending claims, (including withdrawn claims) is set forth below. Cancelled and not entered claims are indicated with claim number and status only. The claims as listed below show added text with underlining and deleted text with ~~strikethrough~~. The status of each claim is indicated with one of (original), (currently amended), (cancelled), (withdrawn), (new), (previously presented), or (not entered).

1. (cancelled)

2. (cancelled)

3. (Currently Amended) A controlling system for use with variable attenuators disposed in a WDM transmitting apparatus for adding and dropping a WDM optical signal, the controlling system comprising:

a plurality of variable attenuators for adjusting optical power levels of optical signal components of individual wavelengths demultiplexed from the WDM optical signal;

a plurality of output optical level detecting units detecting the output optical levels of the plurality of variable attenuators;

a fault detector detecting a disconnect fault; and

a feed-back circuit for controlling adjustments of the optical attenuation amounts of the plurality of variable attenuators,

wherein optical signal components of individual wavelengths whose power levels have been adjusted by the plurality of variable attenuators are multiplexed and thereby a WDM optical signal is generated and transmitted,

wherein a target value is set for the feed-back circuit, the target value representing the optical power level of each of the optical signal components of individual wavelengths, and

wherein when an optical signal component of a wavelength of the WDM optical signal is disconnected based on a detected disconnect fault, the feed-back circuit sets the attenuation amount of a variable attenuator assigned to the optical signal component to a predetermined fixed value.

4. (Currently Amended) A controlling system for use with variable attenuators disposed in a WDM transmitting apparatus for adding and dropping a WDM optical signal, the

controlling system comprising:

- a plurality of variable attenuators for adjusting optical power levels of optical signal components of individual wavelengths demultiplexed from the WDM optical signal;

- a plurality of output optical level detecting units detecting the output optical levels of the plurality of variable attenuators;

- a fault detector detecting a disconnect fault; and

- a feed-back circuit for controlling adjustments of the optical attenuation amounts of the plurality of variable attenuators,

- wherein optical signal components of individual wavelengths whose power levels have been adjusted by the plurality of variable attenuators are multiplexed and thereby a WDM optical signal is generated and transmitted,

- wherein a target value is set for the feed-back circuit, the target value representing the optical power level of each of the optical signal components of individual wavelengths,

- wherein when an optical signal component of a wavelength of the WDM optical signal is disconnected based on a detected disconnect fault, the feed-back circuit sets the attenuation amount of a variable attenuator assigned to the optical signal component to a predetermined value, and

- wherein the predetermined value of said variable attenuator is set so an optical signal that is transmitted from the WDM transmitting apparatus corresponding to an abrupt optical input does not destroy a WDM transmitting apparatus disposed on the next stage and as the output optical level detecting unit can detect an output optical level of the variable attenuator corresponding to the abrupt optical input.

5. (Currently Amended) A controlling system for use with variable attenuators disposed in a WDM transmitting apparatus for adding and dropping a WDM optical signal, the controlling system comprising:

- a plurality of variable attenuators for adjusting optical power levels of optical signal components of individual wavelengths demultiplexed from the WDM optical signal;

- a plurality of output optical level detecting units detecting the output optical levels of the plurality of variable attenuators;

- a fault detector detecting a disconnect fault; and

- a feed-back circuit for controlling adjustments of the optical attenuation amounts of the plurality of variable attenuators,

- wherein optical signal components of individual wavelengths whose power levels have

been adjusted by the plurality of variable attenuators are multiplexed and thereby a WDM optical signal is generated and transmitted,

wherein a target value is set for the feed-back circuit, the target value representing the optical power level of each of the optical signal components of individual wavelengths,

wherein when an optical signal component of a wavelength of the WDM optical signal is disconnected based on a detected disconnect fault, the feed-back circuit sets the attenuation amount of a variable attenuator assigned to the optical signal component to a predetermined value, and

Wherein the feed-back circuit maximizes the attenuation amount of a variable attenuator assigned to an optical signal component of an unused wavelength.

6. (cancelled)

7. (cancelled)

8. (Currently Amended) A controlling method for use with variable attenuators disposed in a WDM transmitting apparatus for adding and dropping a WDM optical signal, the controlling method comprising:

causing a plurality of variable attenuators to adjust optical power levels of optical signal components of individual wavelengths demultiplexed from the WDM optical signal;

causing a plurality of output optical level detecting units to detect the output optical levels of the plurality of variable attenuators;

detecting a disconnect fault; and

causing a feed-back circuit to control adjustments of the optical attenuation amounts of the plurality of variable attenuators,

wherein optical signal components of individual wavelengths whose power levels have been adjusted by the plurality of variable attenuators are multiplexed and thereby a WDM optical signal is generated and transmitted,

wherein a target value is set to the feed-back circuit, the target value representing the optical power level of each of the optical signal components of individual wavelengths, and

wherein when an optical signal component of a wavelength of the WDM optical signal is disconnected based on a detected disconnect fault, the feed-back circuit sets the attenuation amount of a variable attenuator assigned to the optical signal component to a predetermined fixed value.

9. (Currently Amended) A controlling method for use with variable attenuators disposed in a WDM transmitting apparatus for adding and dropping a WDM optical signal, the controlling method comprising:

causing a plurality of variable attenuators to adjust optical power levels of optical signal components of individual wavelengths demultiplexed from the WDM optical signal;

causing a plurality of output optical level detecting units to detect the output optical levels of the plurality of variable attenuators;

detecting a disconnect fault; and

causing a feed-back circuit to control adjustments of the optical attenuation amounts of the plurality of variable attenuators,

wherein optical signal components of individual wavelengths whose power levels have been adjusted by the plurality of variable attenuators are multiplexed and thereby a WDM optical signal is generated and transmitted,

wherein a target value is set to the feed-back circuit, the target value representing the optical power level of each of the optical signal components of individual wavelengths,

wherein when an optical signal component of a wavelength of the WDM optical signal is disconnected based on a detected disconnect fault, the feed-back circuit sets the attenuation amount of a variable attenuator assigned to the optical signal component to a predetermined value, and

wherein the predetermined value of said variable attenuator is set so an optical signal that is transmitted from the WDM transmitting apparatus corresponding to an abrupt optical input does not destroy a WDM transmitting apparatus disposed on the next stage and as the output optical level detecting unit can detect an output optical level of the variable attenuator corresponding to the abrupt optical input.

10. (Currently Amended) A controlling method for use with variable attenuators disposed in a WDM transmitting apparatus for adding and dropping a WDM optical signal, the controlling method comprising:

causing a plurality of variable attenuators to adjust optical power levels of optical signal components of individual wavelengths demultiplexed from the WDM optical signal;

causing a plurality of output optical level detecting units to detect the output optical levels of the plurality of variable attenuators;

detecting a disconnect fault; and

causing a feed-back circuit to control adjustments of the optical attenuation amounts of the plurality of variable attenuators,

wherein optical signal components of individual wavelengths whose power levels have been adjusted by the plurality of variable attenuators are multiplexed and thereby a WDM optical signal is generated and transmitted,

wherein a target value is set to the feed-back circuit, the target value representing the optical power level of each of the optical signal components of individual wavelengths,

wherein when an optical signal component of a wavelength of the WDM optical signal is disconnected based on a detected disconnect fault, the feed-back circuit sets the attenuation amount of a variable attenuator assigned to the optical signal component to a predetermined value, and

wherein the feed-back circuit maximizes the attenuation amount of a variable attenuator assigned to an optical signal component of an unused wavelength.

11. (Currently Amended) A method, comprising:

adjusting variable attenuators of a WDM transmission system responsive to output levels;

detecting a disconnect fault; and

setting an attenuation of a variable attenuator to a fixed amount when a corresponding WDM input is determined as disconnected based on a detected disconnect fault.

12. (new) A method, comprising:

adjusting power levels of demultiplexed optical signals from a WDM optical signal;

setting an attenuation amount of a variable attenuator to a predetermined fixed value when a corresponding optical signal is determined to be disconnected based on a detected disconnect fault using a threshold;

transmitting a generated WDM optical signal when the adjusted power levels are multiplexed.